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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,131	12/15/2004	Humiaki Mita	60,233-013	6717

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EXAMINER

ULLAH, ELIAS

ART UNIT	PAPER NUMBER
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2812

DATE MAILED: 02/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/518,131	Applicant(s) MITA, HUMIAKI	
	Examiner Elias Ullah	Art Unit 2812	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2004 and 28 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 December 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/28/05 & 12/15/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This office action is in response to the application filed 10/08/2003, and to the IDS filed on 12/15/2004.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to because: Figures 4A-4E should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Additionally, Figure 1B does not show the broken line portion as described in the specification on page 9, line 7. Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: On page 2, line 13, "is adhered", (the first occurrence) should be deleted. On page 4, line 17, "occurrence of" should be deleted before "the nick", after "of" On page 8, line 16, "Fig.

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"1G" should be changed to "1J". On page 9, line 3 "resistant" should be changed to "resistance". Appropriate correction is required.

4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 1 recites the limitation "adhering member" in line 12. There is insufficient antecedent basis for this limitation in the claim. It is suggested that applicant change the limitation to "adhering material".

8. Claim 2 recites the limitation "on exposed" in line 8. There is insufficient antecedent basis for this limitation in the claim. It is also suggested that applicant change the limitation to "on the exposed".

9. Claims 5-6 and claims 8-9 recite the limitation "the ring-shaped reinforcing member" in claim 5, (line 3-two occurrences, line 5, line 7), claim 6, (line 7, line 12, line 14), claim 8, (line 3) and claim 9, (line 5-6). There is insufficient antecedent basis for

this limitation in the claim. It is also suggested that applicant change the limitation to "the reinforcing member".

Claims 5-7 and claim 9 also recite the limitation " the adhering material layer " in claim 5, (line 2, line 4-7), claim 6, (line 8), claim 7, (line 2), and claim 9, (line 2, line 4). There is insufficient antecedent basis for this limitation in the claim. It is also suggested that applicant change the limitation to "the adhering material".

10. Claim 6 recites the limitation " first reinforcing member " in line 13. There is insufficient antecedent basis for this limitation in the claim. It is also suggested that applicant change the limitation to "first tape reinforcing member".

11. Claim 7 recites the limitation " first tape member " in line 3. There is insufficient antecedent basis for this limitation in the claim. It is also suggested that applicant change the limitation to "the first tape reinforcing member".

12. Claim 11 recites the limitation " reinforcing member " in line 4. There is insufficient antecedent basis for this limitation in the claim. It is also suggested that applicant change the limitation to "ring-shaped reinforcing member".

13. Claim 12 recites the limitation " a predetermined thickness of the thinly processed semiconductor device " in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. It is also suggested that applicant change the limitation to " the predetermined thickness of the thinly processed semiconductor substrate".

Claim Rejections - 35 USC § 102

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

15. Claim 1-3 and 11-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Miyamoto et al. (US 6,342,434).

16. With respect to claim 1, Miyamoto et al. shows the method as claimed in figures 1-61 as: A semiconductor device manufacturing method comprising: a first step of preparing a semiconductor substrate (2) on which multiple semiconductor devices are formed and thinning the semiconductor substrate (2, Fig. 26-27); a second step of adhering a reinforcing member (3, 4, 5) through which a part of one surface of the semiconductor substrate is exposed to the one surface thereof with an adhering material (Fig. 8, Col. 10, lines 32-42); a third step of forming a metallic film for forming an electrode provided in the semiconductor device on an exposed portion of one surface of the semiconductor substrate or the other surface of the semiconductor substrate (Fig. 56, 2d); and a fourth step of removing the reinforcing member from the semiconductor substrate (col. 19, lines 10-15), and dicing the semiconductor substrate (Fig. 52) and wherein the adhering member is formed of material which changes its

state at temperature higher than a processing temperature in the third step(Col. 16, lines 30-39).

17. With respect to claim 2, Miyamoto et al. also shows the method as claimed in Fig 1-5 and Fig. 11-17 as: the reinforcing member has an opening at its center and a ring shape with an outer diameter equal to an outer diameter of the semiconductor substrate (1, 1a, 1b and col.11, lines 14-16), where in outer periphery of the ring-shaped reinforcing member to adhere the reinforcing member to one surface of the semiconductor substrate with the adhering material (col. 20, lines 59-65), the metallic film on the exposed one surface of the semiconductor substrate through the opening of the ring-shaped reinforcing member (1, 1b, Col. 11, lines 14-17).

18. With respect to claim 3, Miyamoto et al. also shows the method as claimed: the adhering material is formed o a metal or alloy having a melting point higher than a processing temperature in the third step or heat resistance resin having a melting point or a softening point higher than the processing temperature in third steps (Col. 16, lines 30-39, where softening refer to "cool-off").

19. With respect to claim 11, Miyamoto et al. shows the method as claimed in Fig 1-5 and Fig. 11-17 as: A ring-shaped reinforcing member, which is used in a manufacturing process of a semiconductor device having a semiconductor substrate (1, 1a, 1b and col.11, lines 14-16) thinly processed to a predetermined thickness (Fig. 2, Wafer 2 and Col. 10, lines 17-20), said reinforcing member having an opening at its center, having a ring shape with an outer diameter equal to an outer diameter of the semiconductor substrate (col. 12, lines 59-65), and being adhered to one surface of the

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semiconductor substrate with an adhering material, thereby enhancing strength of the semiconductor substrate reduced by thinly processing (col. 20, lines 59-65).

With respect to claim 12, Miyamoto et al. also shows the method as claimed in Fig. 9 as: the ring-shaped reinforcing member according to claim 11, wherein the ring-shaped reinforcing member (1a, 1b and 1) has a thickness larger than a predetermined thickness of the thinly processed semiconductor device (2 in Fig. 26-28).

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

22. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over by Miyamoto et al. (US 6,342,434) in view of Aoki et al (5,874,784).

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23. With respect to claim 4, Miyamo et al. shows the process as claimed and as described in the preceding paragraphs, but fails to expressly disclose the heat resistance resin is polyimide resin.

24. With respect to claim 4, Aoki et al. teaches the heat resistance resin is polyimide resin (col. 10, lines 24-27). In view of this disclosure, it would have been obvious to one of ordinary skill in the art at the time the invention was made to produce a heat resistance resin by polyimide resin, as shown by Aoki et al. because in term of heat resistance resin polyimide resin is prepared for adhesiveness.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elias Ullah whose telephone number is 571-272-1415.

The examiner can normally be reached on 8-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MICHAEL LEBENTRITT can be reached on (571) 272-1873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


MICHAEL LEBENTRITT
SUPERVISORY PATENT EXAMINER

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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